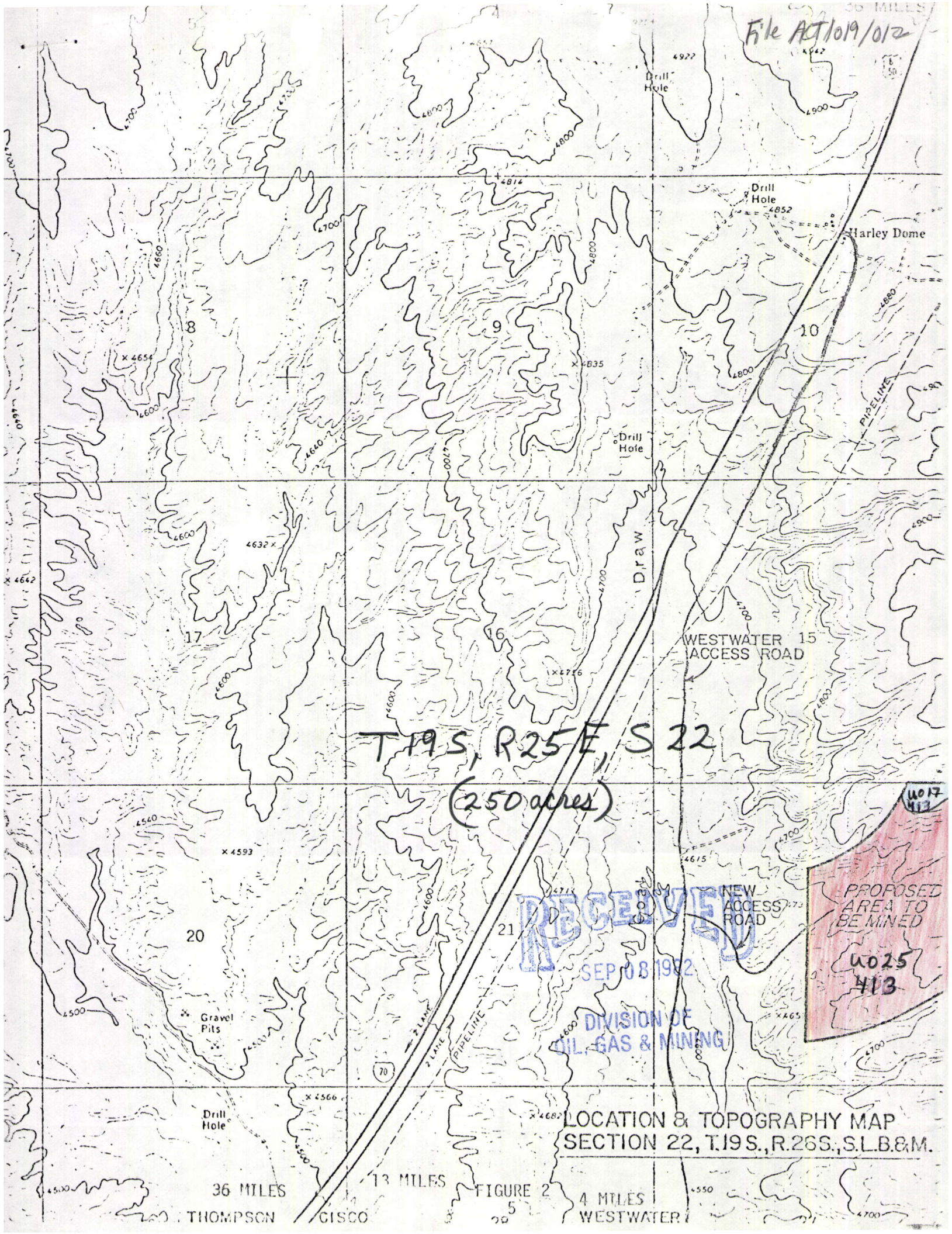


File ACT 1019/012



T.19S., R.25E., S.22  
(250 acres)

RECEIVED  
SEP 08 1982

DIVISION OF  
OIL, GAS & MINING

LOCATION & TOPOGRAPHY MAP  
SECTION 22, T.19S., R.26S., S.L.B.&M.

36 MILES THOMPSON  
13 MILES GISCO  
4 MILES WESTWATER  
FIGURE 2  
5  
20



## B. Anticipated Mining Methods

The mining method would be strip-mining requiring a cut and fill process. The general sequence of the mining process would be as follows:

- a. Removal of all vegetation (juniper trees, brush, etc.) on an area large enough to accommodate the initial mining operation (approximately 15 acres). The large trees would be stockpiled to be used in the reclamation process for erosion control and wildlife habitat.
- b. Remove and stockpile any topsoil.
- c. Remove all overburden.
- d. Remove and stockpile the raw humate material.
- e. Place overburden in excavation
- f. Replace topsoil.
- g. Enrich the topsoil with humate material.
- h. Replant the area with a recommended seed mixture.

Each of the above items would be a continuing process as the mining expanded into the area.

The initial cut for the open pit excavation would be on the exposed humate seam and would traverse the side of the ridge where the humate is exposed. The cut would be approximately 500 feet in length and 100 feet wide. Any overburden removal required on this cut would be placed on the slope directly below the humate seam and serve as a pad to facilitate the mining operation. After the humate is removed from the initial cut, the next area to be mined would be cleared of brush and topsoil and stockpiled at the end of the proposed cut. The exposed overburden would then be bulldozed into the previously mined section. (Each cut and fill operation would involve approximately 15 acres.) This would provide access to the next block of humate to be removed. This process would continue throughout the mining operation (see Figure 3).

The strip mining would be accomplished by mechanical methods using dozer tractors, rippers, front-end loaders, etc. A small amount of blasting may be required, but would be minimal.

## C. Transportation

The raw material would be stockpiled at the mining site and then hauled 5 miles along a county road by truck to the Westwater rail siding; loaded on train cars and then transported to California for final processing.



100%

T	R	S
Allotment	Harley Dome	
Observer	Mayer	
Date	9-15-80	
Photo #	38 1-67 COOR F-10	
Temp.	SWA HD-8	
SWA		U025

[illegible]



ECOLOGICAL SITE FIELD FORM

SWA HB-8 U025

Write Up No. \_\_\_\_\_

Percent of Complex 100

Photo No. \_\_\_\_\_

Allotment Harley Dome

Date (YYMMDD) 80 09 15

USGS Quad Name \_\_\_\_\_

Recorder Mayer

Location T. \_\_\_\_\_ R. \_\_\_\_\_ Sec. 4 4

Plant Group	PLANT SYMBOL	% Present	by weight	% Cl max	Elevation		Topography	Horizontal Configuration
					Aspect	Slope %		
Grasses & Grass-like Plants	ELSA		6	0			1. Ridge	1. Convex
	BRTF		7	0			2. Upper slope	2. Straight
	ORHY		1	1			3. Mid slope	3. Concave
	HJJA		1	1			4. Lower slope	4. Undulating
							5. Bench/flat	
							6. Streambottom	
	SOIL FACTOR ITEMS		RATING					
	Soil movement							
	Surface litter							
	Surface rock							
	Pedestalling							
	Flow patterns							
	Rills							
	Gullies							
14%					SSF Total	50		
Forbs	ERIDG		1	1				
	ASTER		1	1				
1%					<div style="border: 1px solid black; padding: 5px;"> TOTAL ANNUAL YIELD POUNDS PER ACRE <b>440</b> </div>			
Trees and Shrubs	JUOS		47	40			PRODUCTION ON TREE DOMINATED SITES	
	ARTAW		1	1			Average tree height	
	EPTO		1	1			Average Crown Diameter	
	GUCA2		7	1			Average foliage density   sparse medium dense	
	ATCO		10	1				
	GHVI 9		6	0				
	CAVE4		1	0				
	ATNMC		1	0				
	ARARN		12	10				
	LEPU		7	0				
	DPUNT		1	0				
	EPVI		1	0				
	65%							

REMARKS

64  
(HP)

33  
16  
49  
  
300  
140  
440



15% 85%

<u>Cover</u>	<u>Classes</u>	<u>Midpoint</u>
0 - 5	#1	2.5
5 - 25	#2	15
25 - 50	#3	37.5
50 - 75	#4	62.5
75 - 95	#5	85
95 - 100	#6	97.5

Range Site J.UOS ARTR2  
ATCO, GUSA2, CHUIE, ARTE  
Soil Symbol 413  
Slope % 5-10  
Aspect W - NW  
Elevation  
Erosion

S.D. Shallow

Loam (JP)

T R S  
Allotment Harley Dome  
Observer Mayer  
Date 9-16-80  
Photo # 3C 1-4 COOR I-2  
Temp. SWA  
SWA 4017

Transect \_\_\_\_\_

Other SWA's 85%

Transect		Other SWA's																				Total Midpoints	% Cover or mean	Composi- tion		
Species	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20						
Rock	1	1	1	1	1	1	1	1	1	1																
Bare Ground	6	6	1	6	4	5	4	6	6	3																
Litter	1	1	6	1	2	1	2	1	1	3																

## Grasses

[illegible]

## Forbs

[illegible]

## Shrubs

[illegible]

## Shrub and Tree Density

[illegible]



# ECOLOGICAL SITE FIELD FORM

SWA U017

Write Up No. \_\_\_\_\_

Percent of Complex 85

Photo No. \_\_\_\_\_

Allotment Harley Dome

Date (YYMMDD) 80 09 16

USGS Quad Name \_\_\_\_\_

Recorder Mayer

Location T. \_\_\_\_\_ R. \_\_\_\_\_ Sec. 4 4

Plant Group	PLANT SYMBOL	% Present by weight	% Cl max	Elevation		Topography	horizontal Configuration
				Aspect	Slope %		
Grasses & Grass-like Plants	BRTE	2	0			1. Ridge	1. Convex
						2. Upper slope	2. Straight
						3. Mid slope	3. Concave
						4. Lower slope	4. Undulating
						5. Bench/flat	
						6. Streambottom	
Forbs	ERCE	1	1				
Trees and Shrubs	JUOS	60	40				
	ATCO	10	1				
	ARTRW	17	1				
	GUSA2	5	1				
	EPVI	1	1				
	CHVI8	5	0				
	OPPO	1	0				
	FRAN2	1	0				
	GRSP	1	0				
				<p>SOIL FACTOR ITEMS RATING</p> <p>Soil movement _____</p> <p>Surface litter _____</p> <p>Surface rock _____</p> <p>Pedestalling _____</p> <p>Flow patterns _____</p> <p>Rills _____</p> <p>Gullies _____</p> <p>SSF Total <u>40</u></p>			
				<p>TOTAL ANNUAL YIELD POUNDS PER ACRE</p> <p><u>450</u></p>			
				<p>PRODUCTION ON TREE DOMINATED SITES</p> <p>Average tree height <u>6</u></p> <p>Average Crown Diameter <u>8</u></p> <p>Average Foliage Density sparse <u>(medium)</u> dense</p>			
97%				<p>45</p> <p>(M)</p>			
REMARKS							



Range Site ARTR 2, GRSP  
7 EATE  
 Soil Symbol \_\_\_\_\_  
 Slope % 5-10  
 Aspect NW  
 Elevation \_\_\_\_\_  
 Erosion \_\_\_\_\_  
S.D. Loam 0/

Transect \_\_\_\_\_ Other SWA's 5/6

[illegible]



# ECOLOGICAL SITE FIELD FORM

SWA H04 4017

Write Up No. \_\_\_\_\_

Percent of Complex 15

Photo No. \_\_\_\_\_

Allotment Harley Dome

Date (YYMMDD) 80 09 09

USGS Quad Name \_\_\_\_\_

Recorder MAYER

Location T. \_\_\_\_\_ R. \_\_\_\_\_ Sec. 4 4

Plant Group	PLANT SYMBOL	% Present by weight	% C1 max	Elevation		Topography	Horizontal Configuration
				Aspect	Slope %		
Grasses & Grass-like Plants	BRTE		0			1. Ridge	1. Convex
						2. Upper slope	2. Straight
						3. Mid slope	3. Concave
						4. Lower slope	4. Undulating
						5. Bench/flat	
						6. Streambottom	
Forbs							
Trees and Shrubs	ARTW		80				
	GRSF		10				
	OPPO		7				
	TUOS		3				

SOIL FACTOR ITEMS    RATING

Soil movement

Surface litter

Surface rock

Pedestalling

Flow patterns

Rills

Gullies

SSF Total    48

TOTAL ANNUAL YIELD  
POUNDS PER ACRE

500

PRODUCTION ON TREE DOMINATED SITES

Average tree height

Average crown diameter

Average foliage density    sparse    medium    dense

22

(4)

98%

REMARKS



## Existing Environment

### B. Soils

The majority of the proposed area to be mined has shallow, well drained, moderately rapidly permeable soils (soil mapping unit 413 - Shalako gravelly sandy loam, dry, 3 to 8 per cent slopes). This soil is derived dominantly from sandstone and the present vegetation is mainly Utah juniper, shadscale, Wyoming big sagebrush and rabbitbrush.

Typically the surface is covered with 15 per cent channers and 30 per cent gravels. The surface layer is typically gravelly sandy loam 1 inch thick but ranges to include very fine sandy loam. Reaction is mildly alkaline to strongly alkaline (PH 7.9 - 9.0). The subsoil is commonly fine sandy loam, very fine sandy loam and loam, three inches thick. The substratum is commonly gravelly loam, sandy loam and fine sandy loam over sandstone at a depth of 10 inches. Depth of sandstone ranges from 5 to 20 inches. Reaction is moderately alkaline to very strongly alkaline and it is moderately to very strongly calcareous.

Surface runoff is slow and the hydrologic group rating which refers to soils grouped according to their runoff producing characteristics or the inherent capacity of soil base of vegetation to permit infiltration has a high runoff potential due to the limiting depth of the soil and rock outcrop. The hazard of water erosion is slight and the potential erodibility of the soil is low to moderate. The wind erodibility group (WEG) for the gravelly and stony surface types are not subject to wind erosion (WEG = 8). The WEG for fine sandy loam, sandy loam and very fine sandy loam texture is 3 which has a erodibility and estimated soil loss (I Value) of 86 tons/acre/year.

The Shalako soils are in a semidesert shallow loam (Juniper-Pinyon) ecological site.

There are also very small areas of the Ravola family soils (soil mapping unit 8). This soil is found along drainage channels and on broad fans and flats. These soils are very deep and well drained. They are moderately to strongly saline. The present vegetation is greasewood, shadscale and galleta grass. Surface textures are silt loam or silty clay loam. The underlying layers are silt loam or silty clay loam with thin strata of fine sandy loam and loamy fine sand. They are moderately to very strongly alkaline and are moderately to very strongly calcareous.

Runoff is moderate or slow and the hazard of water erosion and potential erodibility is moderate or severe. These soils are susceptible to gully erosion. The hazard of wind erosion is slight. The wind erodibility group rating is 4L with an I value of 86/tons/acre.

The ecological site for this soil is Alkali Flat.



Soils map - Humate EA



Harley  
Dome  
allotment

soils

sect 22, T19S, R 25E